Station X/Y

User Manual

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Station X/Y Minimodular Synthesisers

Introduction

We originally introduced a minimodular system of this size back in 2001. It ran for a few years. Now in 2010 we have introduced a new series of minimodulars. The first is called Station X, and this is a complete modular monosynth in a small package. There is also a Station Y expander system.

The systems comprises modules from the long running Concussor series.

This manual assumes you have basic knowledge of synthesisers and modulars. If you are a complete beginner, then a quick web search will bring up plenty of web sites and forums to get you going.

Station X Minimodular Synthesiser

You get;

MIDI-CV

VCO

VCF

VCA

LFO

EG

SH

Noise

That's a lot of analogue circuitry in such a small box!

Each module is completely independent and must be wired to the other modules, except the VCA which is serially wired to the VCF audio output.

Module Description

MIDI-CV

The MIDI to CV converter takes MIDI note messages and converts them into voltages so you can play the Station from a MIDI keyboard or MIDI sequencer.

MIDI IN socket

Connect the MIDI Out from your controller (MIDI keyboard or sequencer) to the MIDI In.

To set the MIDI Receive Channel;

Press and hold the PROG(ram) button. Whilst holding it, press a MIDI key or move a MIDI controller.

Release the PROG button.

Station will set its MIDI receive channel to the same channel as your controller.

If you pressed a MIDI key to do this, CV2 will be controlled from Velocity.

If you moved a MIDI controller to do this, CV2 will be controlled from that controller you used.

MIDI THRU socket

This is a copy of the MIDI signals coming into the IN socket.

CV1 socket

This is a pitch CV output. MIDI notes are converted to voltages.

A typical patch would be to connect CV1 to VCO CV input to control the VCO's pitch by MIDI notes.

The scaling system is 1V/Octave.

CV2 CC/VEL socket

This is a controller CVoutput. Use to change, for example, the filter cut-off via MIDI velocity or a MIDI controller.

Our preferred choice is to patch it to the VCF Cutoff CV input.

GATE socket

Note on/off information is converted into a gate on/off voltage. Normally use this to trigger the envelopes, so patch it to the EG TRIG input.

LED light

The LED will flash to show any MIDI activity.

VCO1 Voltage Controlled Oscillator

This module produces the raw tone (sound) for your synthesizer patch.

TUNE knob

This knobs tunes the VCO pitch.

LEVEL knob

This is the level control for the Square wave output.

CV socket

This is the voltage control input to change pitch. Normally patch MCV CV1 into here.

PWM socket

This is the voltage control input to change the square wave duty cycle (pulse width). Normally patch the LFO triangle waveform into here to produce a chorusing effect. Doing this gives the effect of thickening up the sound, often used in single VCO synths to give the illusion of being a two VCO synth.

SAWTOOTH wave socket

This is the output for the sawtooth waveform. Normally patch this into the filter audio input.

SQUARE wave socket

This is the output for the square waveform. Normally patch this into the filter audio input (as an alternative to the Saw wave).

VCF1 Voltage Controlled Filter / VCA1 Voltage Controlled Amplifier

The VCF is a 24dB 'Moog' type ladder filter. Use this to alter the tone of the VCO.

CUTOFF knob

This knob removes harmonics from the audio input source changing the tonal characteristics.

Q knob

Q, or sometimes called Resonance or Emphasis. This will increase the level of feedback / ringing at the cut-off frequency. Use this to make the synth sound 'squidgy'.

IN socket

This is the audio input to the filter. Normally patch the VCO audio out into here.

FC CV1 socket

This is a voltage control input to change the filter cut-off.

Normally patch the EG output into here.

F C CV2 socket

This is a voltage control input to change the filter cut-off.

Normally patch the MCV CV2 into here.

VCA CV socket

This is a voltage control input to change the amplifier level (i.e. change the output volume). Normally patch the EG output into here.

OUT socket

This is the audio output from the VCA. This is what you would feed into your mixer.

Note; the output from the VCF is hardwired to the VCA input.

EG1 – Envelope Generator

An envelope is a modulation signal that changes over time. Typically use to change the volume of a VCA output, or tonal characteristics of a VCF (cutoff).

ATTACK knob

This control changes the attack time of the EG.

DEC(ay)/REL(ease) knob

This control changes the Decay time of the envelope.

LED light

The LED will flash to show EG level.

SUSTAIN IN/OUT switch

When this switch is set to IN, sustain is active. In this mode Decay becomes Release.

TRIG socket

This is the trigger input to control the EG. Normally feed GATE into here.

OUT socket

This is the EG output. Normally feed this to FC CV1.

VC LFO1 – Voltage Controlled Low Frequency Oscillator

An LFO is a periodic wave form of low frequency, usually used to create vibrato (by modulating the pitch of a VCO) or wah-wah (by modulating the cutoff of a VCF) effects.

SPEED knob

This control changes the LFO rate.

LED light

This LED will flash to show LFO speed.

SAW / INVERSE SAW knob/switch

This is a level control that changes the output level of the sawtooth waveform.

When this knob is pulled out the waveform is inverted.

TRIANGLE / SQUARE knob/switch

This is a level control that changes the output level of the triangle waveform.

When this knob is pulled out the waveform is changed to a square wave.

SAW/INVERSE SAW socket

This is the saw/inverse saw waveform output socket.

SQUARE/ TRIANGLE socket

This is the square/triangle waveform output socket.

F CV socket

This is a voltage control input to change the LFO speed. Normally you could put the EG output in here, or say CV2 from the MCV.

S+H Sample and Hold

S+H will sample the voltage on its input each time it receives a clock signal, then hold that voltage at the output until the next clock signal. Typically used to make stepped control voltages out of EG and LFO signals.

SLEW knob

This control changes the slew rate (portamento/glide/slide) time of the S+H CV out

IN socket

This is the CV input to the S+H. Normally feed NOISE into here.

CLOCK socket

This is the voltage input to latch the S+H. Normally feed LFO square wave or MCV GATE into here.

OUT socket

This is the S+H CV output. Feed this into VCO CV, for example.

Note; the above patching example will give a random CV. (R2D2 sounds when the output is patched into VCO pitch CV).

Note; If the noise level is too high, the S+H signal may be corrupted!

NOISE knob

This knob is used to changed the NOISE level.

NOISE socket

This socket outputs white noise. This can be used for effects like wind sounds.

Station Y Minimodular Expander Synthesiser

You get;

VCO x2

EG

LFO

EG

Mixer

Splitter x2

Ring Mod

That's a lot of analogue circuitry in such a small box!

Each module is completely independent and must be wired to the other modules.

Module Description

VCO2/3 Voltage Controlled Oscillator

These modules produce the raw tone (sound) for your synthesizer patch. Both VCOs are identical.

TUNE knob

This knobs tunes the VCO pitch.

LEVEL knob

This is the level control for the Square wave output.

CV socket

This is the voltage control input to change pitch. Normally patch MCV CV1 into here.

PWM socket

This is the voltage control input to change the square wave duty cycle (pulse width). Normally patch the LFO triangle waveform into here to produce a chorusing effect. Doing this gives the effect of thickening up the sound, often used in single VCO synths to give the illusion of being a two VCO synth.

SAWTOOTH wave socket

This is the output for the sawtooth waveform. Normally patch this into the filter audio input.

SQUARE wave socket

This is the output for the square waveform. Normally patch this into the filter audio input (as an alternative to the Saw wave).

EG2 – Envelope Generator

An envelope is a modulation signal that changes over time. Typically use to change the volume of a VCA output, or tonal characteristics of a VCF (cutoff).

ATT(ack) knob

This control changes the attack time of the EG.

DEC(ay)/REL(ease) knob

This control changes the Decay time of the envelope.

LED light

The LED will flash to show EG level.

SUSTAIN IN/OUT switch

When this switch is set to IN, sustain is active. In this mode Decay becomes Release.

TRIG socket

This is the trigger input to control the EG. Normally feed GATE into here.

OUT socket

This is the EG output. Normally feed this to FC CV1.

LFO2 – Low Frequency Oscillator

An LFO is a periodic wave form of low frequency, usually used to create vibrato (by modulating the pitch of a VCO) or wah-wah (by modulating the cutoff of a VCF) effects.

SPEED knob

This control changes the LFO rate.

LED light

This LED will flash to show LFO speed.

TRIANGE knob

This is a level control that changes the output level of the triangle waveform.

SQUARE knob

This is a level control that changes the output level of the square waveform.

TRIANGLE socket x2

This is the triangle waveform output socket.

SQUARE socket

This is the square waveform output socket.

MIXER

This is an audio or CV mixer. Mix either audio or CV, but not both at the same time!

INput sockets x6

These are the signal inputs.

-OUT socket

This is a mixer output, but it is inverted. Use to invert CV signals. E.g. invert an EG signal.

+OUT socket

This is the uninverted mixer output.

SPLIT1/2

These are used to split signals. You would do this to make a single signal available to feed into 1 or more inputs.

RingMod

Use the ring modulator typically to create bell and metallic sounds.

IN X/ IN Y sockets

Usually feed to separate VCO signals into X and Y. Alter the pitch of the 2 oscillators to change the ring mod effect. Experiment with different types of audio sources.

RM OUT socket

This is the output from the ring mod.

STATION X/Y REAR PANEL / POWER

The power socket is on the rear.

This unit requires 15V AC, 500mA+ power adaptor. (Not DC!)

The socket requires a 2.1mm barrel type plug.

Station X/Y General Specifications

Weight:

1.75Kg

Size:

185mm (width) x 155mm (height) x 170mm (depth)

Accessories:

Manual, Power Adaptor (UK/EU only), patch leads.

Specification subject to change without notice.

Warranty

Station X/Y comes with a 1 year (from purchase date) back to base warranty, (i.e. customer must arrange and pay for carriage to and from Analogue Solutions or the dealer from which purchased).

This warranty shall not apply where the product has been subject to alteration, misuse, accident, neglect (such as extremes of temperature and/or moistur) or to wear resulting from normal use.

At the sole discretion of Analogue Solutions, the warranty is deemed to be void should the unit be or considered to have been opened or any other modifications or tampering be carried out by unauthorised parties.

CE Compliance

This unit complies with Complies with EU Directives 73/23/EEC and 89/336/EEC. Standards: EN55103-1, EN55103-2, EN60065

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'user manual'

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